

Patent Abstracts of Japan

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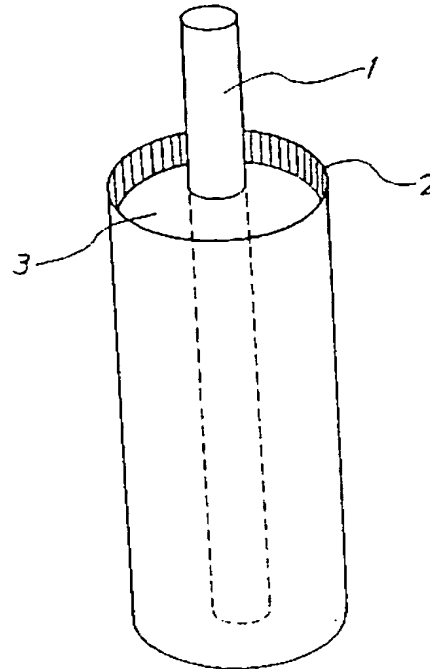
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APPLICANT : NIPPON TELEGR & TELEPH CORP
<NTT>;

INVENTOR : SHIBATA SHUICHI;

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TITLE : MANUFACTURE OF GLASS FOR
OPTICAL FIBER CLAD



ABSTRACT : PURPOSE: To manufacture an optical fiber preform having high quality, economically, by applying a porous gel such as silicon alcoholate to the surface of the rod-shaped transparent preform for the core, and heat-treating the product to convert the gel to transparent clad.

CONSTITUTION: The raw material 3 for forming a clad (a sol solution of a silicon alcoholate prepared by dissolving ethyl silicate in an alcohol and adding a proper amount of water to the solution) is poured into the vessel 2, and a rod-shaped transparent preform 1 for the core synthesized by VAD process, etc. is immersed vertically in the raw material 3. The vessel is heated slowly to about 110°C to effect the hydrolysis of the sol. The raw material is converted from sol to gel, and then released from the wall of the vessel to obtain the preform 1 coated with dry (porous) gel. The product is heat-treated at about 1,300°C in He+Cl₂ atmosphere to obtain a transparent optical fiber preform composed of a core and a clad. A dispersion of fumed silica may be used as the raw material 1.

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